SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Liang, Jihong
Shah, Dilip M.
Wu, Yonnie S.
Rosenberger, Cindy A.

(ii) TITLE OF INVENTION: Antifungal Polypeptide and Methods for Controlling Plant Pathogenic Fungi

(iii) NUMBER OF SEQUENCES: 19

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Charles E. Cohen, Monsanto Company, BB4F
(B) STREET: 700 Chesterfield Village Parkway North
(C) CITY: St. Louis
(D) STATE: Missouri
(E) COUNTRY: USA
(F) ZIP: 63198

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Cohen, Charles E.
(B) REGISTRATION NUMBER: 34,565
(C) REFERENCE/DOCKET NUMBER: 38-21(10700)A

(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: (314)537-6224
(B) TELEFAX: (314)537-6047

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Arg Leu Cys Glu Arg Pro Ser Gly Thr Xaa Ser Gly Val Cys Gly Asn
1 5 10 15

Asn Asn Ala Cys Arg Asn Gln Cys Arg Asn Leu Glu Arg Ala Glu His
20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Xaa Xaa Xaa Tyr Phe
35 40 45

Pro

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 50 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Arg Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn
1 5 10 15

Asn Asn Ala Cys Arg Asn Gln Cys Arg Asn Leu Glu Arg Ala Glu His
20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
35 40 45

Pro Cys
50

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 35 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 18
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 21
(D) OTHER INFORMATION: /mod_base= i

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GGGAATTCGG ATCCACANGG NAARTARCAD ATRCA 35

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 30 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 18
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 19
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 23
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 24
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 28
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 29
(D) OTHER INFORMATION: /mod_base= i

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

GGGAATTCGG ATCCGGGNNG GGNNGGGNNG 30

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 308 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GGGGGGGGGG GGGGGGCACA CNTCCCCTAC ACATAGATAT ACATACAAAA TCACAGAAAG 60

TAATAGATAT GGCTAAGTGT GCTTCCATCA TCTCCCTTGT CTCTGCTGCT CTTGTTCTCT 120

TTGCTGCTTT TGAAGCACCA GCAATGGTGG AGTCACGGAA GTTGTGCGAG AGTCCAAGTG 180

GAACATGGTC AGGCGTGTGT GGAAACAACA ATGCTTGCAA GAATCAGTGC ATTAACCTTG 240

AAGGAGCNCG ACATGGATCT TGCAACTATG TCTTCCCAGC TCACAAGTGC ATATGCTACT 300

TCCCCTGT 308

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 34 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /d sc = "synthetic DNA"

(ix) FEATURE:
(A) NAME/KEY: modified_bas
(B) LOCATION: 17
(D) OTHER INFORMATION: /mod_base= i

(ix) FEATURE:
(A) NAME/KEY: modified_base
(B) LOCATION: 23
(D) OTHER INFORMATION: /mod_base= i

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GGGAATTCGG ATCCGTNTGY GGNAAYAAYA AYGC 34

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 32 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

GGGAATTCGG ATCCTTTTTT TTTTTTTTTT TT 32

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 306 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GTGTGTGGGA ATAATAACGC ATGCAGGAAC CAATGCAGAA ACCTTGAAAG AGCAGAACAC 60

GGATCTTGCA ACTATGTCTT CCCAGCTCAC AAATGTATTT GTTACTTCCC ATGTTAATCT 120

ACCAAATCAC TTTTTGTGCT TGTGTGTGTA TTTTACATGT TATGTGTTTA TTTACATGAA 180

ATAAGTCTGT GTCATCCTTA TGGGTGACCT TATGACATGT ACCAGATATA TCATATATGT 240

ATGTTGGTTT GTTGTGTGGC AATTATAAAC TTTTATTTGT GGATGCAAAA AAAAAAAAAA 300

AAAAAA 306

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 500 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

GGGGGGGGGG GGGGGGCACA CNTCCCCTAC ACATAGATAT ACATACAAAA TCACAGAAAG 60

TAATAGATAT GGCTAAGTGT GCTTCCATCA TCTCCCTTGT CTCTGCTGCT CTTGTTCTCT 120

TTGCTGCTTT TGAAGCACCA GCAATGGTGG AGTCACGGAA GTTGTGCGAG AGTCCAAGTG 180

GAACATGGTC AGGCGTGTGT GGGAATAATA ACGCATGCAG GAACCAATGC AGAAACCTTG 240

AAAGAGCAGA ACACGGATCT TGCAACTATG TCTTCCCAGC TCACAAATGT ATTTGTTACT 300

TCCCATGTTA ATCTACCAAA TCACTTTTTG TGCTTGTGTG TGTATTTTAC ATGTTATGTG 360

TTTATTTACA TGAAATAAGT CTGTGTCATC CTTATGGGTG ACCTTATGAC ATGTACCAGA 420

TATATCATAT ATGTATGTTG GTTTGTTGTG TGGCAATTAT AAACTTTTAT TTGTGGATGC 480

AAAAAAAAAA AAAAAAAAAA 500

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 38 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: oth r nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

GGGAATTCGG ATCCAASAAA GTAATAGWTA TGGCTAAG 38

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 40 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GGGAATTCGG ATCCTTATTA ACATGGGAAG TAACAAATAC 40

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 286 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GGGAATTCGG ATCCAAGAAA GTAATAGATA TGGCTAAGTT TGCTACCATC ATCTCTCTTC 60

TCTTTGCTGC TCTTGTTCTC TTTGCTGCCT TTGAAGCACC AACAATGGTG GATGCAAGGT 120

TGTGCGAGAG ACCAAGTGGG ACATGGTCAG GAGTTTGTGG GAACAACAAT GCATGCAGGA 180

ACCAATGCAG AAACCTTGAA AGAGCAGAAC ACGGATCTTG CAACTATGTC TTCCCAGCTC 240

ACAAATGTAT TTGTTACTTC CCATGTTAAT AAGGATCCGA ATTCCC 286

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CTAGTGTTGA CCAGTGTTAC TC 22

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 270 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

GGATCCAASA AAGTAATAGW TATGGCTAAG TTTGCTACCA TCATCTCTCT TCTCTTTGCT 60

GCTCTTGTTC TCTTTGCTGC CTTTGAAGCA CCAACAATGG TGGATGCAAG GTTGTGCGAG 120

AGACCAAGTG GGACATGGTC AGGAGTTTGT GGGAACAACA ATGCATGCAG GAACCAATGC 180

AGAAACCTTG AAAGAGCAGA ACACGGATCT TGCAACTATG TCTTCCCAGC TCACAAATGT 240

ATTTGTTACT TCCCATGTTA ATAAGGATCC 270

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 79 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Met Ala Lys Phe Ala Thr Ile Ile Ser Leu Leu Phe Ala Ala Leu Val
1 5 10 15

Leu Phe Ala Ala Phe Glu Ala Pro Thr Met Val Asp Ala Arg Leu Cys
20 25 30

Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala
35 40 45

Cys Arg Asn Gln Cys Arg Asn Leu Glu Arg Ala Glu His Gly Ser Cys
50 55 60

Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
65 70 75

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 285 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

TCCGGATCCT CTAGAGTTTT ATTAGTGATC ATGGCTAAGT TTGCGTCCAT CATCGCACTC 60

CTCTTTGCTG CTCTCGTTCT CTTTGCTGCT TTCGAGGCAC CAACTATGGT GGAGGCACAA 120

AAGTTGTGCG AGAGGCCATC AGGGACTTGG TCAGGAGTCT GCGGAAACAA CAACGCATGC 180

AAGAACCAAT GCATCAACCT CGAGAAGGCA CGGCATGGAT CTTGCAACTA CGTCTTCCCA 240

GCTCACAAGT GCATCTGCTA CTTTCCATGC TAATAGGAAT TCGAA 285

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 285 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "synthetic DNA"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

TCCGGATCCT CTAGAGTTTT ATTAGTGATC ATGGCTAAGT TTGCGTCCAT CATCGCACTC 60

CTCTTTGCTG CTCTCGTTCT CTTTGCTGCT TTCGAGGCAC CAACTATGGT GGAGGCACAA 120

AAGTTGTGCC AAAGGCCATC AGGGACTTGG TCAGGAGTCT GCGGAAACAA CAACGCATGC 180

AAGAACCAAT GCATCAGACT CGAGAAGGCA CGGCATGGAT CTTGCAACTA CGTCTTCCCA 240

GCTCACAAGT GCATCTGCTA CTTTCCATGC TAATAGGAAT TCGAA 285

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
35 40 45

Phe Pro Cys
50

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS:
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

```
Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
1               5                  10                  15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
            20                  25                  30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
        35                  40                  45

Phe Pro Cys
    50
```